CLAIMS:

1. A method for the identification of T-cell stimulating protein fragments comprising the following steps:

   a) establishing the amino acid sequence of an antigen which is a protein or a peptide;

   b) subdividing the detected amino acid sequence of said antigen into protein fragments;

   c) synthesizing at least one protein fragment having a length of from 8 to 30 amino acids, or cleaving the amino acid sequence of said antigen into at least one protein fragment having a length of from 8 to 30 amino acids, wherein said protein fragment is a subsequence of the established amino acid sequence of said antigen;

   d) incubating a suspension containing T cells with the protein fragment or fragments in different experimental runs;

   e) identifying of

      (i) at least one T cell cytokine which has been induced by the protein fragment or fragments and synthesized in the T cells, wherein the T cell cytokine or cytokines remain within the cell or are bound to the cell membrane; and/or

      (ii) at least one activation marker which has been induced or expression-enhanced by the protein fragment or fragments and which is expressed in the T cells, wherein said activation marker can b present within the cell or expressed on the cellular surface;

wherein said T cell cytokine or cytokines or activation markers are identified by flow cytometry; and

f) assigning the experimental runs in which T cells have been stimulated and such stimulation has been recognized by the identification of one or more T cell cytokines and/or one or more activation markers, to the amino acid sequence or sequences of said protein fragments which had been incubated with the T cells.

2. The method for the identification of T-cell stimulating protein fragments according to claim 1, wherein said identification of at least one T cell cytokine or activation marker is made on the individual cell level.

3. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein said suspensions containing T cells contain cells which present the protein fragment essentially in a state bound to MHC class I or class II molecules.

4. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein the protein fragment in the class I restricted presentation comprises from 9 to 11 amino acids, and the protein fragment in the class II restricted presentation comprises at least 11 amino acids.

5. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein said suspension containing T cells is a suspension of whole blood, peripheral white blood cells (PWBC), splenocytes, thymocytes, bone marrow, cerebrospinal fluid and/or lymph node cells.

6. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein said suspension containing T cells is derived from the patients to be subjected to therapy, from donors or from animals.

7. The method for the identification of T-cell stimulating protein fragments according to any of th preceding claims, wherein the antigens, i.e., proteins or peptides, are

derived from macroorganisms, cells, cell cultures and/or tissues of donors or patients.

8. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein the T cell cytokines are of the types interferon-γ, TNF-α or interleukin 2.

9. The method for the identification of T-cell stimulating protein fragments according to any of the preceding claims, wherein the T cell cytokines remain within the cell after inhibition of secretion.

10. A process for the preparation of a protein fragment/peptide which is T-cell stimulating and whose amino acid sequence or initial amino acid sequence was found by the method for the identification of T-cell stimulating protein fragments according to any of the preceding claims 1 to 9, wherein said protein fragment/peptide is prepared by the solid phase method, liquid phase method or by protein biosynthesis in a host.

11. The process for the preparation of a protein fragment/peptide according to claim 10, wherein said protein fragment/peptide contains insertions, deletions or substitutions (modifications) wherein one, two, three or more amino acids have been exchanged, deleted or inserted, wherein said modified protein fragment/peptide has essentially the same function with respect to the stimulation of T cells as the non-modified protein fragment/peptide.

12. The process for the preparation of a protein fragment/peptide according to claim 10 or 11, wherein said protein fragment/peptide contains at least one additional naturally occurring or not naturally occurring amino acid and/or a protecting group at the N-terminal and/or C-terminal end (extended modification), wherein the extendedly modified protein fragment/peptide has essentially the same function with respect to the stimulation of T cells as the non-modified protein fragment/peptide.

13. Use of a protein fragment/peptide prepared by the process according to any of the preceding claims 10 to 12 for the preparation of a medicament for immune stimulation.

14. The use of a protein fragment/peptide according to claim 13, wherein said immune stimulation is a vaccination or desensitization.